

# Jobs and Careers in the New Era

**Mr. Gopaldaswamy Ramesh**

Author and Consultant

[Gopaldaswamy\\_Ramesh@Yahoo.com](mailto:Gopaldaswamy_Ramesh@Yahoo.com)

*In this article, we look at the changing job scenario and the hiring process that we have witnessed over the past few years. We then look at the major drivers of the new job roles and the skill sets required for success in this scenario. We conclude with what an aspiring candidate can do to increase his/her chances of success. This article is the first in a series where we look at how facets of life – jobs, education and learning, communication and social life – have changed thanks to innovations in technology.*

In the last decade, the job scenario has undergone a sea change. The hiring process, job roles and skill sets needed have all undergone significant changes. Convergence of communications and computers, Artificial Intelligence, Machine Learning, Social Media, Cloud Computing and Big Data and Analytics has changed not only the profile of jobs, but also the process of hiring. Let us look at each of these in details.

## Changing hiring processes

**Use of “RPO”:** Recruitment is becoming a specialized activity that is also extremely time consuming. With rapidly decreasing product life cycles and the pressure of reaching the product faster, organizations find it difficult to devote the amount of quality time that recruitment needs and deserves. Hence the move towards “Recruitment Process Outsourcing” (RPO) is becoming increasingly common. This enables the organization to focus on its core activities without diluting the quality of people coming on board by outsourcing the key recruitment activities to people who specialize in recruitment. The organization to which the recruitment process is outsourced does all the preliminary work – resume screening, the preliminary rounds of interviews before shortlisting the candidates to be sent to organization that is actually recruiting. This would not be the same as interviewing directly with the organization that is actually recruiting because the candidate may not get as much direct information about the nature of the job.

**Inclusion and Increasing diversity in work place:** Diversity and Inclusion in the workplace are becoming extremely important. While gender diversity and racial diversity have been well understood and implemented for a long time, the importance of inclusion of differently abled or special needs people into the workplace has seen a tremendous rise in the past decade. Inclusion of differently abled is no longer considered as a “CSR activity”. Rather, the talents of the special needs people have been found to be a very compelling reason to include them in the workplace. Indeed, in certain cases, the “disability” or “difference” can make them even more productive than “normal” candidates. Just to cite two examples: People with autism have tremendous patience and speed and don’t get “bored” with routine work. Their productivity and attention to detail in these types of activities actually work in their favor. As a second example, hearing impaired people can be a great asset in noisy environments where the people without such impairment would find difficult or impossible to work. Diversity and inclusion are also been demanded by legislative frameworks making it no longer an optional, “nice to do” thing.

**Social Media inputs:** Organizations find a lot of valuable and very relevant information in social media platforms like LinkedIn, Facebook, Twitter, etc. Tools are available to aggregate information from these multiple sources and construct a very accurate profile of the candidate even before they see the resume. As this information is provided on less restrictive conditions, weightage is given to these. A candidate’s resume and credentials are compared with the information available. Hence the organization is better armed in evaluating the candidate’s resume when the candidate goes to face the interview.

**More objective candidate – job matching at first level:** Following through on the point above about social media inputs, today there is a much better preliminary work done – more often by automated tools using artificial intelligence and machine learning – to short list the right candidates for the next stage of recruitment. So, when a candidate clears this level and gets through to the next stage, he/she should expect an even more focused assessment of the match of his / her skill sets and experience to the organization’s needs.

**Problem solving vs. “programming” assessment:** Until a few years ago, purely programming assessments were part of the selection process. The trend now is to have assessments that evaluate generic problem solving skills. And the problem to be solved need not necessarily be a programming problem. In some cases, even “take home problems” are used. The purpose of such assessments is to evaluate the “out of the box” thinking and analytical capabilities of the candidate.

## Emerging job profiles

Changing job profiles are reflected by the changes in the computing environment. Social – Mobile – Analytics – Cloud technologies (SMAC for short) has revolutionized how computing is done and consequently what is required of job

applicants. This has resulted in some of the traditional job functions being lost or rewritten. For example, as the computing resources move from “in house resources” to resources hosted on the cloud and managed by a service provider, the job function of an in house administrator is either not required or has changed value dramatically. Similarly, the job of “GUI Designers” has changed substantially owing to the new interfaces brought up by mobile phones and tablets and the need for these devices to work over potentially low bandwidth signals. Also, with the increased emphasis on accommodating people with special needs, user interfaces that are usable by people with vision, hearing or mobility impairments have become a necessity. With all these changes in the environment, new job functions are emerging. Some of these new jobs and the demands that these jobs place on aspirants are given below:

**Social Media:** As discussed earlier, social media such as Facebook, LinkedIn are important for job fitting. They are also important as means of revenue increase and targeted marketing for an organization. Social media professionals try to make the social media presence of an organization more profitable. Their job would entail designing advertisements and campaigns with the right text and images with appropriate tagging by the right keywords and hashtags so that the page appears on top of user’s searches (Search Engine Optimization), appealing to the right set of audiences who would eventually end up buying the organization’s products. Their job would require being good at customer relations and data analysis. Also, it requires drawing the right set of inferences about customer behavior. Thus social media related jobs would require skills in language, graphics design, user interface design, knowledge of how to get the best out of Search Engine Optimization and the ability to draw the right conclusions from all the results that can enhance an organization’s revenue. These jobs would also require good articulation of the findings to the top rungs of the organization, who are typically the decision makers on marketing campaigns and responsible for sales and profits.

**Mobile app development:** Before the advent of SMAC, we had different user interfaces. Web interfaces, native GUI interface for each of the platforms and so on. Today, mobile app interface is essential for market success of a product. The first aspect of a good mobile app developer is to be able to design a “good” user interface. Some of the aspects that constitute a “good user interface” are having elements like activity indicators, unified color scheme and providing for quick loading of the pages and being responsive. This leads to the second aspect of mobile app development which is the increased focus on performance. Given that mobile apps have to operate over networks where bandwidth may be limited, performance optimization and minimizing network traffic would become very crucial. This is indeed a specialized skill. The third aspect of mobile app user interface is to be cross platform. The app has to work on at least three of the major platforms – iPhone, Android and Windows phones. In order to be successful, an App Developer has to be able to create apps that run on all these platforms with minimal changes.

**Analytics:** For a long time, information technology is used to “structured data” (like tables in relational databases). Knowing the structure made it relatively easy to access the information. Today, with data generated by mobiles, mouse clicks in web sites, etc., data is essentially unstructured. But this unstructured data, if mined and analyzed can lead to a wealth of useful information that no structured data can produce. Analytics is the art of mining these huge volumes of unstructured data and gleaning some inferences, conclusions and predictions from them. This includes (but not restricted to) the role of data scientists. While tools like SAS are available for analytics, success in the analytics line requires a good grasp of statistics and mathematics fundamentals, an appetite for curiosity and being able to look at different perspectives, with a thorough understanding of the domain. Analytics requires working with large volumes of data. Hence it is important to deep dive into details with a toothcomb. Numbers that present themselves would not mean anything unless the person is able to interpret the numbers and the relationships among them in a way that makes business sense. Hence, while being detail oriented, the person at the same time not lose sight of the big picture of the business and the issues involved in the business as a whole. This leads to another important skill required for analytics: That of presentation, communication and team work. All the relationships conjectured across data have to be discussed with people from different job functions and presented and communicated to people at different levels in an organization. Indeed, the “hard skills” of mathematics and analytical methods have to be effectively combined with “soft skills” of presentation, communication and team work! Such a combination is a rare gift!

**Cloud:** In organizations using the traditional “in house” resources model, the hardware and software required for running the applications of the organization had to be installed and managed in house by a set of system administrators. Their hands were full to upgrade all the software to supported versions, handle all the compatibility across the various pieces of software and hardware and to ensure optimum performance of the various systems. This job was highly specialized and often not directly related to the organization’s core business. Thus the move towards cloud computing over the past decade, With Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS), an organization would not have to worry about acquiring and installing the various components of hardware and software and ensuring their interoperability. All that is done by the cloud hosting specialists organization.

In addition to the above, Artificial Intelligence and Machine Learning are getting intertwined into many of the functions. As Internet of Things (IoT) becomes more and more pervasive, it is to be expected that there will be further convergence of all these domains, thus blurring the line separating these various job functions.

## Changes in skill sets

**Increased emphasis on soft skills:** As we saw earlier, every one of the SMAC components and Artificial Intelligence involves both “hard skills” and “soft skills”. In Social Media work, one needs to know and harness Search Engine Optimization methods. This will be possible only when he or she has a good command over language and an aesthetic sense to design pages advertisements and marketing campaigns effectively. Then, upon getting the results, he or she should be able to present to the appropriate levels of management to achieve the desired impact. Similarly the Analytics component too requires a good balance of hard and soft skills – to be able to creatively do the analysis and to be able to present the results of the analysis in an effective manner. In all these cases, communication has to be done to various levels of management, thus requiring proper audience analysis and tailored presentation. Also, all these jobs would require working with different sets of people with varied skills, so teamwork becomes vital to success.

**Increased focus on mathematics and statistics knowledge:** Analytics, machine learning and artificial intelligence all require a strong foundation in statistics and mathematical modeling. For a long time, when the focus was on programming, skills in mathematics and statistics were not essential for success. But the current trends have reignited the need for basic mathematics and statistics skills.

**New programming languages:** Many of the conventional general purpose programming languages like C are being rapidly replaced by new, specialized programming languages like Python and R. Also, with the increasing complexity and diversity of systems, automated testing and test scripting languages are becoming more common.

## Tips to cope up with the changes

**Keep your social media profiles current:** Profiles in sites such as LinkedIn are becoming the first point of check for many organizations. Hence this has to be kept current. Make sure that all the academic qualifications, certifications you have earned, job positions you have held, all the responsibilities and accomplishments and the corresponding time frames are kept up to date. If you have any publications or books to your credit, make sure you give relevant information on the site and provide pointers to get more information. Also, try to get as many testimonials and references shown on your profile. This will substantially enhance the chances of your being called in for an interview.

**Be careful about what you put on social media:** Sometimes we go under the belief that what we put on “friendly” social media like Facebook are our “personal views” and have nothing to do with our job search. Unfortunately this is not always true. A lot of information about you can be gleaned from your posts – your stand on various social issues, your political views, your travel preferences, your friends , just to name a few. Some of these could have a bearing on your chances of getting through to the next stage.

**Do some research about the organization where you are applying:** Getting a job is as much about the match between your skills and the organization’s needs as it is about your skills and experience per se. Hence, more the information you have about the organization, what they do and what is the job position they are looking at you for, the better you can project about how you are best suited to fulfil the organization’s need.

**Have a brief, punchy resume:** The resume that you prepare has to be short and punchy and highlighting right up front what is relevant to the organization to which you are applying. It is a good idea to customize the resume for the organization to fine tune the content and order of information in your resume, especially if you have acquired multiple skills or have a very diverse background of skills and experience

**Make sure you constantly upgrade your skills (and correspondingly update your resume):** Thanks to changes in technology and innovation in processes, what you do and how you do it are constantly undergoing rapid changes. Hence it becomes very important –more important than ever in the past – to keep your skills and knowledge current all the time. The availability of so many online resources in the form of MOOC (Massively Open Online Courses) brings the current courses taught by the most eminent professionals and academicians right to your door step, giving you substantial flexibility and power to embark on a journey of lifelong learning

**Sensitize yourself in working with a diverse set of people:** As mentioned earlier, diversity and inclusion is very important these days. As a result, a job aspirant must reorient himself or herself to succeed in this changing environment. They will have to develop a proper *attitude* and mindset about respecting diversity. For example, one should develop and express empathy when working with people with special needs. This correct attitude would have to be supported by proper *communication*. For example, racist and gender-specific jokes – which are very common in colleges – are absolute no-no at work place. It would be useful to learn skills like sign language to facilitate communication with people with hearing difficulties. Communication skills have to be fine tunes and sharpened with *etiquette* to integrate well into the workplace. Some of the etiquette issues include understanding the culture and customs of the location where you work and adapting yourself to that, without sacrificing your basic individuality, customs and beliefs.

## Conclusions:

Technology has brought about significant changes in not only job profiles, but also in the way the job positions are filled and the skill sets needed. But what is discussed in this article is just the tip of the iceberg. As Internet of Things (IoT) picks up speed and artificial intelligence gets more entrenched in the day to day life, it is quite possible that even more changes are on the anvil. It is important that one keeps current with all the developments and innovations. This aspect – namely, training and learning – is the topic for the next article in this series.

## About the author



Mr. Gopalaswamy Ramesh is an independent consultant and an eminent author, with close to four decades of experience in industry, consulting and teaching. He has taught courses on Software Project Management, Software Testing and Soft Skills in several leading institutions like IIT/Madras, Anna University, IIIT-Bangalore as well as to several leading multi nationals in India and abroad

He played a key role in establishing Oracle's India Development Center at Bangalore and grew it from zero to close to 500 people. When he left Oracle in 2002, he was their Senior Director. Earlier, Ramesh worked in Oracle Headquarters in Redwood Shores, California, holding several technical and management positions. He also headed pre-sales and post-sales support of Oracle products in the ASEAN countries while working at Far East Computers, Singapore from 1982 till 1988.

Ramesh has written eight books which have become best sellers and two of them being also translated to Chinese language. The book *Managing Global Software Projects* won the National Award for the Best Book.

Ramesh has been an active invited participant in several well known conferences and workshops. He was part of the Academic Advisory Board of PMI India from 2009 to 2014, during which time he was the TC Chair for first two Research and Academic Conferences (RAC) on Project Management in India.

Ramesh is socially conscious, with particular interest in people with special needs and economically disadvantaged people. He has taught Mathematics in a school for economically disadvantaged children, wrote books on moral education for children (in English and Tamil) and has also translated to Tamil the book GIFTED (by V R Ferose and Sudha Menon) on the accomplishments of fifteen differently abled individuals

Ramesh holds a BE Degree in Electronics and Communication Engineering from IISc, Bangalore, a MS in Computer Science from IIT, Madras and MS in Engineering Management from Stanford University, California.

