

Recruiting The Best Talent And Develop Them Within The Organization

Naveen Kommuru, Merck & Co., Inc., Rahway, NJ, USA

Madhusudhan Reddy Papasani, Merck & Co., Inc., Rahway, NJ, USA

ABSTRACT:

Statistical programming organizations are facing new challenges with hiring and developing the best talent for their organizations in the pro-remote and hybrid work environments, like all other industries. The employer, as well as the employees, need to understand and work towards making the required changes to attract the best talent in this competitive world. This paper provides different challenges that employees experience, such as presenting their skills and experience in virtual interviews and working in remote positions. We suggest the approaches that they need to take to enhance their skills. Further, we emphasize the importance of continuously expanding their technical knowledge, leadership, and soft skills, which could lead to future career advancement. Alongside this, we encourage employees to consider their long-term growth and development within the industry, rather than the short-term gains and comfort. In addition, this paper discusses scenario-based examples of, how managers can attract and recruit the best talent, and different methods that could help managers to develop their employees within the organization, while serving the best interests of the organization and the employee.

INTRODUCTION:

The advent of pro-remote and hybrid work settings has transformed the professional landscape, requiring employers and employees to adapt in order to recruit and develop top talent in statistical programming. This paper delves into the multifaceted challenges faced by statistical programmers in remote and hybrid work environments, including effectively presenting skills and experiences in virtual interviews and excelling in positions that transcend traditional office boundaries. We aim to provide insightful approaches that empower statistical programmers to enhance their skill sets, emphasizing not only technical expertise but also leadership and soft skills development. By examining the intricate dynamics inherent in the contemporary statistical programming landscape, the paper focuses on the significance of continuous learning and development in technical, leadership, and soft skills for career advancement and long-term growth within the industry. It also explores how managers can attract and recruit top talent through scenario-based approaches and implement effective methods to develop employees while aligning the interests of both the organization and the individuals.

FOR STATISTICAL PROGRAMMERS ATTENDING INTERVIEWS:

FROM CHALLENGES TO SOLUTIONS IN THE ARENA OF VIRTUAL INTERVIEWS:

Navigating virtual interviews poses unique challenges for job seekers in effectively highlighting their skills and experience. This section discusses the key challenges (Fig.1) encountered in virtual interviews and presents effective solutions (Fig.2) to overcome them, enabling candidates to make a strong impression and showcase their capabilities.

CHALLENGES:

Demonstrating technical expertise: Virtual interviews limit the direct visibility of a candidate's programming abilities, making it challenging to highlight technical skills effectively.

Limited non-verbal cues: Facial expressions and body language may not be easily discernible in virtual interviews, making it difficult for candidates to establish rapport and gauge the interviewer's reactions.

Interruptions and distractions: Remote environments can introduce potential interruptions and distractions that disrupt the flow of the interview, impacting the candidate's ability to present their skills and experiences effectively.

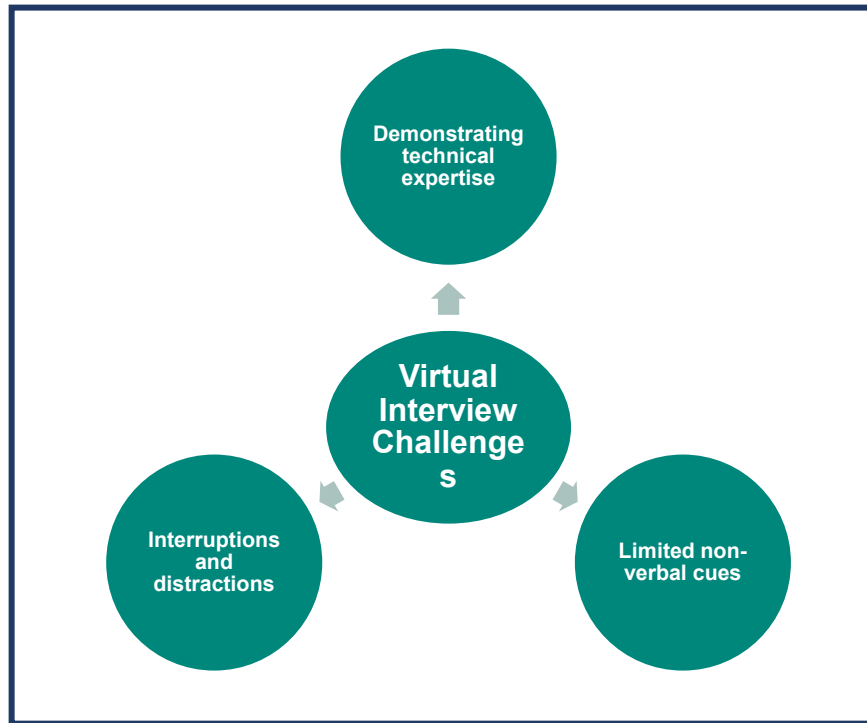


Fig.1. Virtual interview landscape presents distinct challenges for job seekers seeking to effectively demonstrate their skills and experience

SOLUTIONS:

To address these challenges and succeed in virtual interviews, candidates can adopt the following strategies:

Prepare and share code samples: Candidates should prepare code samples in advance to demonstrate their technical expertise. Sharing screens during the interview can facilitate live demonstrations of coding skills.

Adapt communication style: Given the limited non-verbal cues, candidates should focus on clear and concise communication. They should practice delivering concise and impactful responses, highlighting past experiences that align with the job requirements and highlighting transferable skills to a remote or hybrid work setting. Maintaining engagement and professionalism throughout the interview is essential.

Create a distraction-free environment: Candidates should select a quiet workspace and minimize potential interruptions. Closing unnecessary applications and silencing notifications on the computer can help maintain focus during the interview.

Practice virtual interview skills: Engaging in mock interviews using virtual platforms helps candidates simulate the interview environment. Practicing responses to common interview questions and becoming familiar with the technology build confidence and familiarity with the virtual setting.

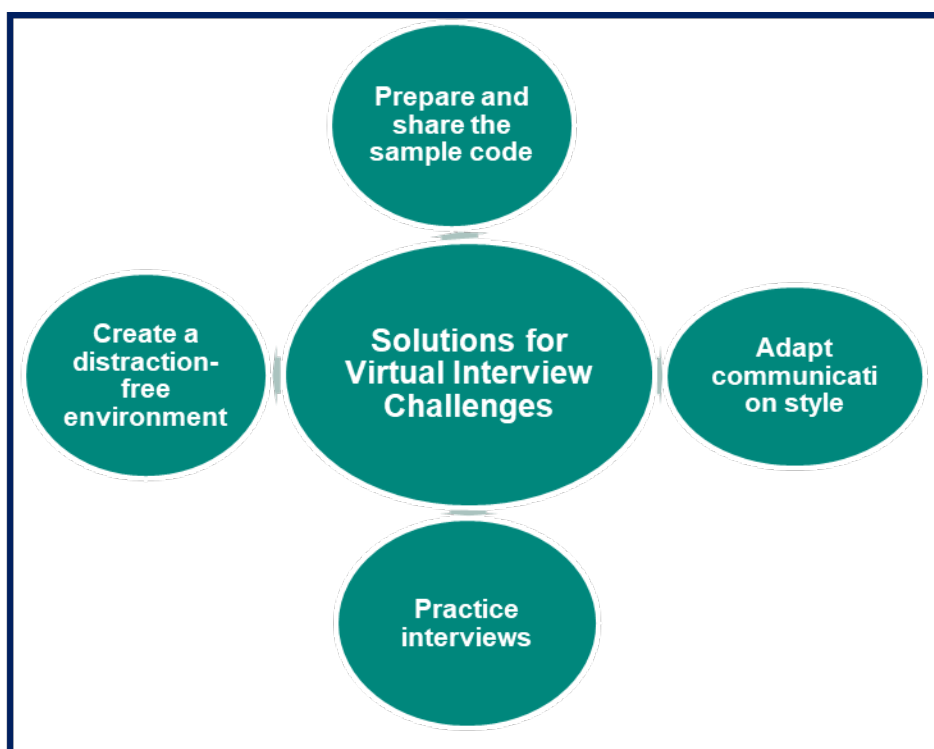


Fig.2. The solutions for Virtual interview challenges include proactive sharing of the code, adapting the communication style, distraction free environment, and practicing the interviews.

EFFECTIVELY RESPONDING TO SITUATIONAL QUESTIONS:

Situational questions are commonly asked in virtual interviews to assess a candidate's critical thinking skills, project management proficiency, and leadership abilities. Responding effectively to these questions requires candidates to provide specific instances with examples where they demonstrated effective leadership or addressed challenges. To highlight project management skills, candidates can discuss how they maintained project timelines and ensured quality benchmarks were consistently met throughout the data reporting lifecycle. Illustrating instances of proactive problem-solving by swiftly addressing challenges further highlights their capabilities. Emphasizing the resolution of personal conflicts with diplomacy illustrates emotional intelligence. By articulating these experiences concisely and connecting them to the interviewer's inquiries, candidates can effectively demonstrate their comprehensive skill set in project management and leadership during a virtual interview, increasing their likelihood of success in landing the job.

MANAGERS / MENTORS ROLE FOR SUCCESSFUL ONBOARDING AND INTEGRATION OF THE NEW RECRUITS:

NURTURING COLLABORATION AND GROWTH USING THE AUTOGRAPH BOOK:

In a hybrid statistical programming environment, the seamless integration of newly recruited candidates is vital for the overall success of the team and the department. Building cross-functional relationships with key stakeholders and facilitating effective collaboration are essential elements in this process. By proactively engaging with key stakeholders in data management, biostatistics, medical writing, regulatory affairs, CDISC expertise, and other relevant areas, statistical programmers can develop a deeper understanding of their roles and contributions to the workflow.

To ensure a successful integration, providing new recruits with an autograph book (Fig.3) that contains the contact details, positions, and expertise of key stakeholders can prove invaluable. This tangible resource enables newcomers to establish direct connections and reach out to these individuals for guidance, collaboration, and knowledge-sharing. Additionally, encouraging new recruits to meet key stakeholders in person and obtain their signatures in the autograph book further strengthens the foundation of professional relationships, fostering a sense of teamwork that transcends the virtual work environment. By combining virtual engagement with face-to-face interaction and the use

of an autograph book, statistical programmers can effectively establish cross-functional relationships that contribute to a collaborative and successful hybrid work environment.

	Data Management Title: Expertise: Roles and Responsibilities Signature
	Biostatistics Title: Expertise: Roles and Responsibilities Signature
	Data Standards Title: Expertise: Roles and Responsibilities Signature

Fig.3. The use of an autograph book can serve as a valuable tool for new recruits to establish connections with key stakeholders, fostering successful collaborations and building professional networks. The autograph book provides a tangible resource that new recruits can utilize to record contact details, positions, and experiences of key stakeholders.

MENTORING FOR SEAMLESS INTEGRATION: PROVIDING GUIDANCE USING THE CHECKLIST

The successful integration of new recruits into a hybrid statistical programming environment relies on the implementation of a well-structured mentoring plan (Fig 4.). This plan serves as a roadmap to provide guidance and support from experienced professionals who offer valuable insights into the department's ecosystem. By adopting a tiered structure that aligns with the level of experience and responsibilities of the new recruits, the mentoring program can effectively tailor the support to their specific needs, ensuring a smooth and efficient onboarding process. The plan outlines specific timelines and tasks, such as understanding departmental workflows, familiarizing with standard operating procedures (SOPs) and execution resources, honing programming skills for datasets and generating tables, listings, and figures (TLFs), and developing expertise in CDISC standards.

The mentoring plan also addresses the importance of accessing and understanding SOPs and execution resources specific to the department. This involves introducing new recruits to the processes, tools, and quality control measures in place for statistical programming projects. The plan may include training on commonly used tools or macros, enabling new recruits to become proficient in integral departmental practices. Furthermore, the plan highlights the significance of CDISC standards in statistical programming and provides opportunities for new recruits to enhance their understanding and application of these standards. By participating in job-related training, workshops, or projects, new recruits can develop the necessary skills to thrive in a hybrid statistical programming environment. As mentors offer firsthand guidance and support, new recruits can seamlessly integrate into the team, fostering a culture of knowledge sharing, growth, and professional development that contributes to the overall success of the department.

Week 1	Date Completed
- Email new employee by their first day to welcome them, introduce yourself and schedule a time to meet with them. - Give employee background information on yourself, your years at the organization, and your current position. - Gather information about them and make sure they have building access, ID card and email account - Give the new hire an introduction to services on campus (Desk, dining options, conference rooms etc.).	
Week 2	Date Completed
- Contact the employee and schedule a time to meet with them. - Make sure they have set-up the meetings with key people mentioned in autograph book. - Make sure they have installed SAS and other tools on the system.	
Week 3	Date Completed
- Review the training progress and any concerns - Provide the workflow - Guidance on SOPs and execution resources - Review concerns, help needed, etc.	
Week 4	Date Completed
- Provide guidance on the common tools used in programming - Details on the project deliverables - Project tracking and Validation process - Standard folder structure of the project execution details - Provide guidance on the initial assignments	
Months Two and Three	Date Completed
- Become a “go-to-person” for the employees - Contact employee at least once each month to discuss any concerns or needs. - Review suggested activity list and provide the advice	

Fig 4. Sample Mentoring Checklist

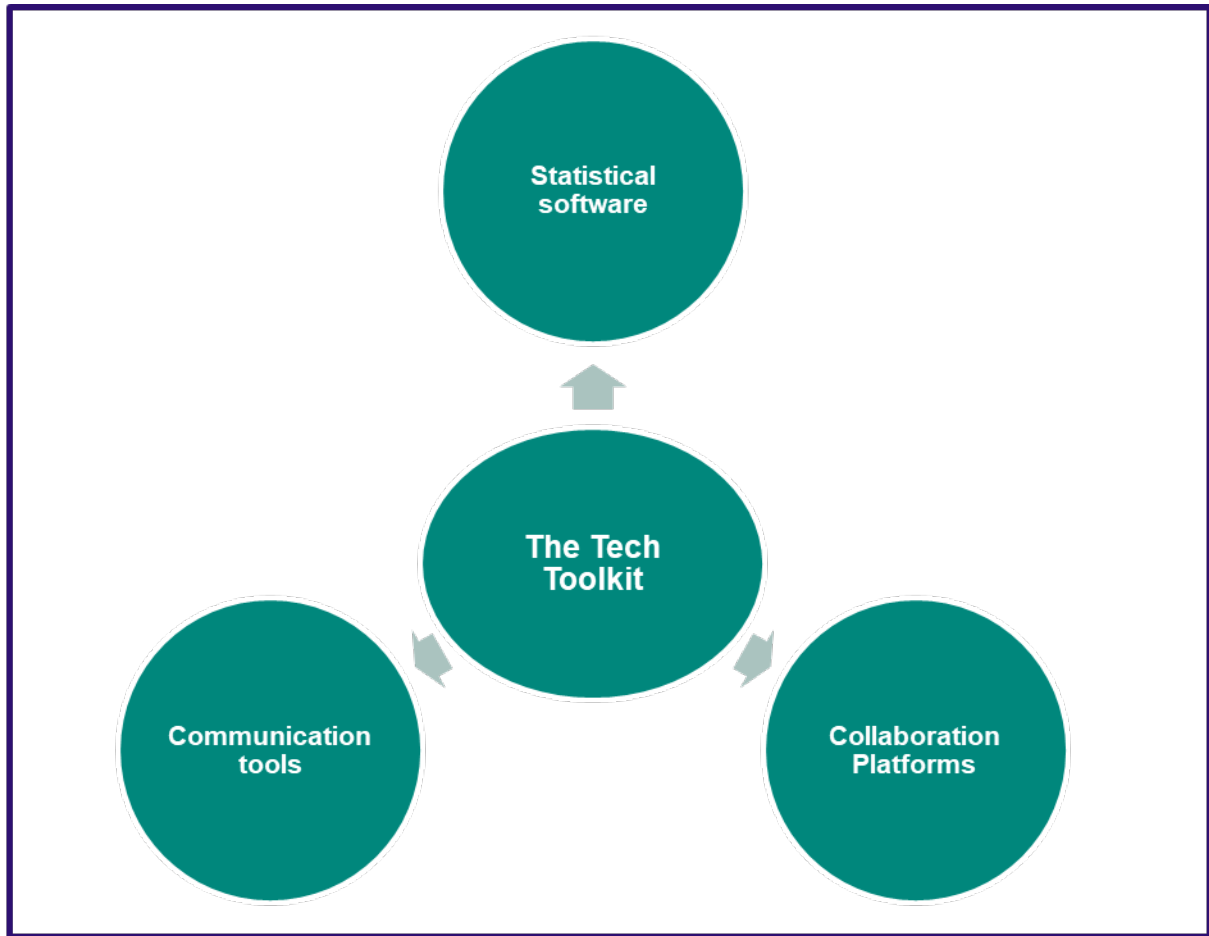


Fig.5. A comprehensive tech toolkit is essential to ensure efficient collaboration. This toolkit encompasses access to updated statistical software, collaborative platforms, and video conferencing tools.

PROGRAMMERS ROLE FOR THE ONGOING SUCCESS AND PROFESSIONAL GROWTH:

EFFECTIVE TOOLS AND COMMUNICATION CHANNELS: THE TECH TOOLKIT

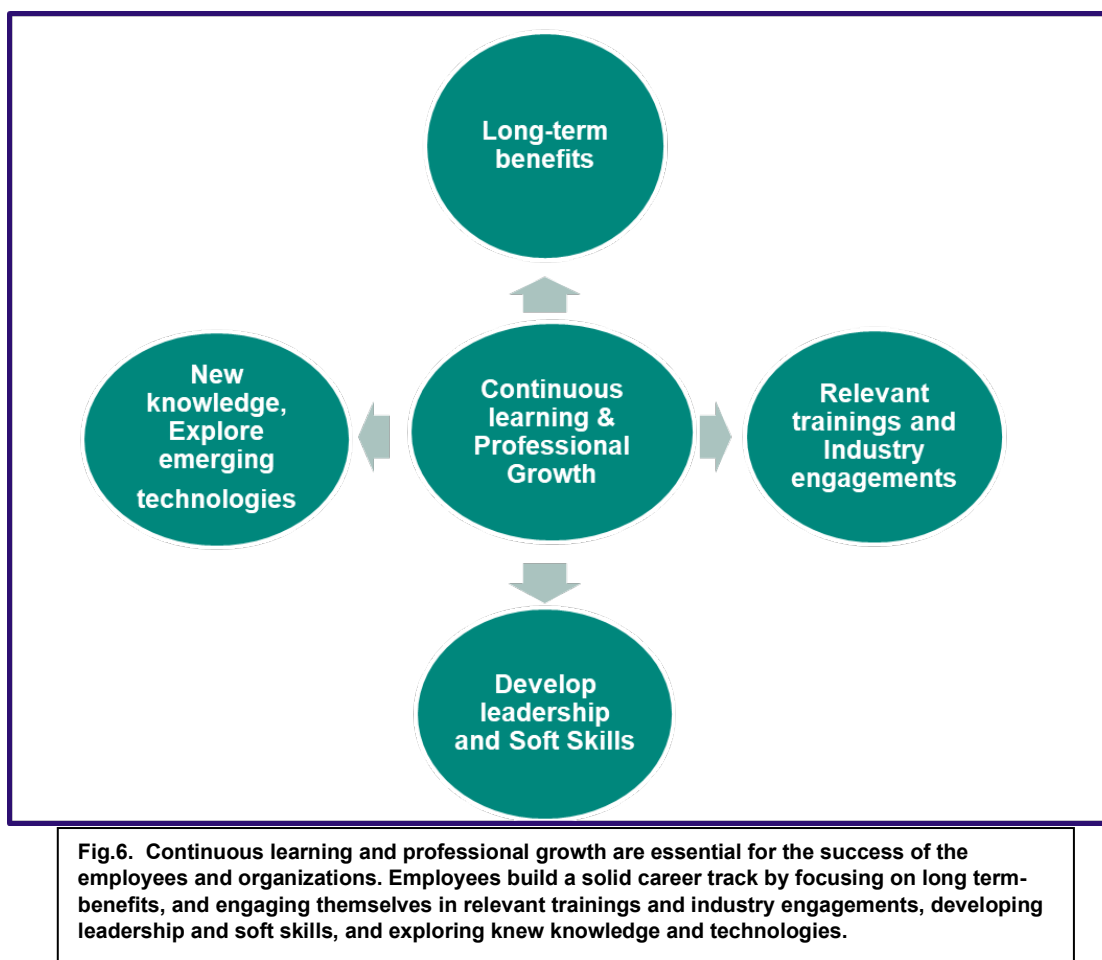
Effective utilization of tools and communication channels is crucial in the hybrid statistical programming landscape. A comprehensive tech toolkit is essential for efficient collaboration, encompassing access to up-to-date statistical software, collaborative platforms, and team conferencing tools (Fig.5.). By leveraging the latest software tools and adhering to departmental standards, team members can enhance their programming capabilities and ensure consistency in their work. Furthermore, implementing clear communication channels, such as project management systems like SharePoint and OneNote, and conducting regular meetings, enables seamless information sharing, task assignment, progress tracking, and effective collaboration. Maintaining open lines of communication with managers and team members fosters unity, facilitates effective task management, and ensures alignment with project goals. This combined approach maximizes productivity, promotes efficient teamwork, and leads to successful project outcomes.

A MINDSET OF CONTINUOUS LEARNING: NURTURING PROFESSIONAL GROWTH

In a hybrid statistical programming environment, success extends beyond meeting immediate job requirements. It necessitates a commitment to continuous learning and professional growth (Fig.6.). Mentors play a pivotal role in guiding their mentees towards relevant training programs, webinars, and industry communities, fostering a mindset of continuous improvement. Encouraging statistical programmers to embrace a lifelong learning approach benefits both their individual growth and the department as a whole. Instead of focusing solely on short-term benefits and changing the organizations, employers can emphasize the longevity and learning within the organization. This approach

recognizes the uniqueness of expertise gathered within the organization through years of experience, enabling statistical programmers to develop a well-rounded skill set and establish themselves as trusted resources within the field. By providing a roadmap for professional development, organizations ensure that statistical programmers are equipped to navigate evolving methodologies and programming languages. Mentorship can include exposure to end-to-end programming experience within the clinical data life cycle, covering areas such as data standards, analysis and reporting, and regulatory submission experience.

This comprehensive exposure enhances statistical programmers' understanding of the entire process, promoting interdisciplinary collaboration and a holistic approach to their work. Fostering a culture of continuous learning and growth within the organization contributes to its adaptability in the dynamic landscape of statistical programming. Encouraging statistical programmers to seek out new knowledge, explore emerging technologies, and engage in professional networks keeps the department at the forefront of industry trends and best practices. This adaptability enables the organization to tackle challenges effectively, innovate, and excel in their careers.



In the realm of continuous learning and professional development, a truly forward-thinking candidate not only seeks external opportunities but strategically leverages lateral avenues within their department. By actively participating in initiatives that offer platforms for developing soft skills, project management acumen, and people management expertise, they position themselves as proactive contributors to their team's success. This not only fosters a collaborative work environment but also showcases their versatility in adapting to various roles within the critical lifecycle and reporting context of clinical trials. Such a candidate, by seamlessly integrating their skills into diverse aspects of the process, not only ensures the smooth execution of projects but also positions themselves as a valuable asset within an organization. This proactive approach not only reflects a commitment to current responsibilities but also serves as a solid foundation for any future opportunities that may arise, ensuring sustained professional growth and development within the ever-evolving landscape of clinical trials and regulatory submissions.

MANAGERS RECRUITING FOR THE DIFFERENT JOB LEVELS AND FOSTERING CAREER DEVELOPMENT

TAILORED STRATEGIES AT DIFFERENT JOB LEVELS

Managers play a critical role in recruiting top talent in statistical programming by employing effective strategies and utilizing scenario-based approaches tailored to different job levels and unique responsibilities. Here are some scenarios (Fig.7) that highlight how managers can attract and recruit the best talent in statistical programming:

Entry-Level Position: In scenarios involving entry-level positions, managers can attract top talent by: Crafting an appealing job description that clearly outlines the learning and growth opportunities available in the organization. Emphasizing the mentorship and training programs offered to support the professional development of new hires. Collaborating with educational institutions, such as universities and coding boot camps, to establish recruiting pipelines for fresh graduates. Conducting structured interviews and assessments to evaluate candidates' coding skills, problem-solving abilities, and aptitude for statistical programming.



Fig. 7: Schema illustrating recruitment strategies for attracting top talent in statistical programming at different job levels.

Mid-Level Position: For mid-level positions, managers can attract the best talent by: Showcasing the challenging and impactful projects available in the organization, highlighting the opportunity for career advancement and growth. Highlighting the potential for leadership roles, team management, and the ability to influence decision-making processes. Utilizing employee referral programs and professional networking platforms to tap into the existing networks of high-performing employees for potential candidates.

Senior-Level Position: When recruiting for senior-level positions, managers can attract top talent through: Promoting the organization's reputation for excellence in statistical programming and its contributions to the field. Providing competitive compensation packages and additional perks to entice experienced professionals. Conducting in-depth technical interviews with domain-specific questions that assess candidates' deep understanding of statistical programming concepts and their ability to drive innovation. Actively engaging with industry conferences, seminars,

and networking events to identify and approach highly skilled professionals who are making notable contributions to the field.

Regardless of the job level, managers should focus on building a strong employer brand, highlighting the organization's commitment to professional development, providing a supportive and inclusive work environment, and offering opportunities for growth and advancement within the statistical programming field. These strategies, combined with scenario-based approaches, can attract and retain top talent in statistical programming.

METHODOLOGIES FOR MANAGERS TO FOSTER CAREER DEVELOPMENT

Managers play a vital role in fostering career development and growth for their employees, aligning individual goals along with organizational objectives. This section discusses methodologies (Fig.8.) used by managers to grow talent, including performance management, professional development, mentoring, and providing career opportunities. By implementing these strategies, managers can empower employees, promote individual and organizational success, and create a culture of continuous learning and development.

Performance Management: Effective performance management involves working closely with employees to align their goals with organizational objectives. Managers conduct regular meetings to track progress, provide feedback, and make real-time adjustments as needed. By setting clear expectations, providing continuous feedback, and conducting appraisals throughout the year, managers help employees achieve their goals and contribute to organizational success.

Professional Development: Managers guide employees in identifying learning opportunities such as training courses and professional networks. While employees are responsible for actively seeking growth opportunities, managers play a crucial role in providing advice and support. By fostering a culture of continuous learning and encouraging employees to pursue advanced degrees or certifications, managers contribute to their professional development and enhance their skills.

Mentoring: Managers serve as mentors, providing guidance, feedback, and support to employees. By establishing strong rapport and trust, managers can have open and honest conversations, helping employees develop the necessary skills and networks to succeed in their current roles and prepare for future growth. Effective mentoring relationships contribute to employee satisfaction, skill development, and career progression.

Career Opportunities: Managers inform employees about career progression opportunities aligned with their strengths, interests, and goals. They provide clear pathways to advancement, setting specific and measurable goals, and offering training and development opportunities that align with these objectives. By fostering transparency and setting the right expectations, managers ensure employees are motivated, engaged, and have opportunities for the professional growth.

These methodologies should be implemented through ongoing and constructive interactions between managers and employees, with a focus on continuous feedback and active engagement. By prioritizing career development and leveraging these methodologies, managers can foster the growth of talent, enabling both individual and organizational success.

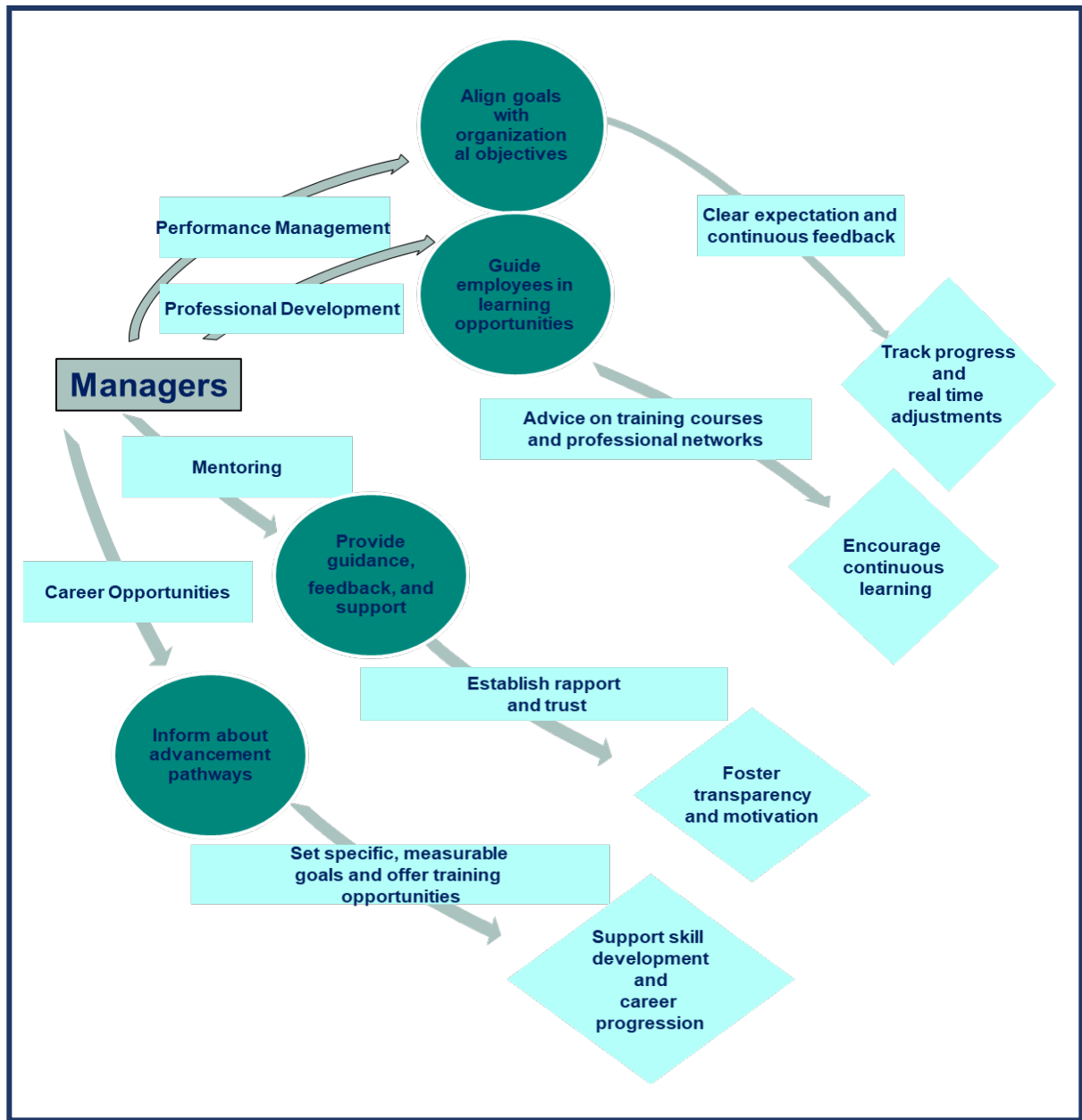


Fig. 8: Methodologies for Managers to Foster Career Development. This figure illustrates the methodologies used by managers to foster career development and growth in employees. Managers employ performance management, professional development, mentoring, and provide career opportunities as key strategies.

HOLISTIC PERFORMANCE DEVELOPMENT: NURTURING GROWTH WITH EMPATHY, TRAINING, AND MENTORSHIP

In the landscape of workforce optimization, a comprehensive performance development plan is indispensable for employees wrestling with job responsibilities by understanding their strengths and weaknesses. Here we discuss three scenarios of the tailored improvement plans, combined with empathy, targeted training support, and managerial mentorship, aimed at encouraging struggling employees toward continuous development.

Programmer Struggling with Complex Programming Tasks: Addressing a programmer navigating intricate programming tasks, especially complex efficacy datasets, the improvement plan takes an empathetic stance. It encourages the individual to seek advice from experienced staff, fostering a supportive environment. Additionally, incorporating targeted training support ensures the programmer gains necessary skills, combining technical

proficiency with existing departmental training materials and user guides. The manager's role as a mentor involves providing continuous constructive feedback and shaping a growth-oriented relationship.

Experienced Programmer Struggling with Project Management: In the scenario of an experienced programmer grappling with project management and meeting deadlines, the development plan not only extends empathetic understanding but also includes personalized training sessions and alignment with the expectations. This multifaceted approach aims to enhance project management skills, fostering a supportive environment by linking with seasoned programmers with superior project management skills. The manager, acting as a mentor, plays an important role in providing continuous constructive feedback, ensuring a comprehensive approach to professional growth and continuous development.

Programmer Navigating Last-Minute Changes and Quality Issues: For a programmer handling last-minute changes and quality concerns, the improvement plan revolves around clear communication, mentorship and understanding the situation. It advises re-negotiating timelines considering the last-minute changes, reaching out to experienced staff for guidance, and incorporating training support for dynamic situations and following departmental validation processes enhances programmer's ability address the challenges.

Through these scenarios, the incorporation of empathy, targeted training support adds a human-centric dimension for the holistic performance development plan. By fostering a culture of understanding, collaboration, and continuous learning, organizations not only ensure professional growth but navigate the intricacies of performance improvement, ensuring struggling employees adeptly handle the challenges and overcome the different challenging situations.

CONCLUSION:

In the era of pro-remote and hybrid work environments, recruiting and developing top talent in statistical programming is a crucial challenge for organizations. This paper has shed light on the multifaceted challenges faced by statistical programmers, including navigating virtual interviews and excelling in pro-remote and hybrid environment. The importance of continuous learning and development in technical, leadership, and soft skills has been emphasized, underscoring the significance of long-term growth and career advancement. The use of autograph book and mentoring programs helps facilitate seamless integration and effective collaboration within hybrid work environments. Additionally, leveraging a comprehensive tech toolkit and efficient communication channels ensures efficient teamwork and productivity. Managers play a pivotal role in attracting and recruiting top talent by incorporating scenario-based approaches and implementing effective methodologies for career development. This paper further discusses importance of a human-centric approach in performance development, recognizing the unique needs and challenges faced by employees in different scenarios. By prioritizing continuous learning and growth, managers can foster a culture of excellence, empowering statistical programmers to navigate the ever-evolving landscape of statistical programming.

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CONTACT INFORMATION:

Your comments and questions are valued and encouraged. You may contact the authors at:

Naveen Kommuru, M.S.
Director
Biostatistics and Research Decision
Sciences
Oncology Statistical Programming
Merck & Co., Inc., Rahway, NJ, USA
naveen.kommuru@merck.com

Madhusudhan Reddy Papasani, Ph.D.
Principal Scientist
Biostatistics and Research Decision
Sciences
Oncology Statistical Programming
Merck & Co., Inc., Rahway, NJ, USA
madhusudhan.papasani@merck.com