Chapter 1 : ORTEC and Operations Research

An Optimization Approach to Workforce Planning for the Information Technology Field by John A. Ausink, Robert Clemence, Jr., Robert Howe, Sheila E. Murray, Christopher Horn, John D. Winkler.

Business leaders often turn to workforce planning to optimize their talent needs for a greater impact on their business results. Workforce planning is the process of analyzing and forecasting your workforce needs both presently and in the future. In simple terms, workforce planning is about attracting and retaining the right number of people with the right skills, traits, and experience. Learn how to properly assess your workforce planning objectives to maintain an efficient team that will bring your business long-term success. A Plan that Produces Results When workforce planning, ensure that your plan is developed in a way that will get you measurable results. A successful workforce plan will provide a plethora of benefits, starting with a clear view of talent demand and supply issues. Determine where you may need more employees according to location and other factors. As part of your workforce planning, provide managers with the necessary reports and tools to better gauge their talent decisions so that they can more effectively prioritize future workforce investments. Workforce planning must align business with HR needs to retain current talent and bring new talent to the forefront. This involves two main components: With strategic planning, business leaders consider the long view and forecast the critical roles that an organization may need in the future. With operational planning, leaders look at the short-term demands of a business. Many business leaders neglect to tell high potentials apart from high performance workers. What makes high potentials a vital component to your team is that these employees consistently outperform their peers in a variety of scenarios. These individuals often exhibit behaviors that reflect the skill and professionalism of the business and display values that make them an invaluable member of the team. The primary elements of a workforce analysis involve a few select areas of interest. First outline the most critical occupations in your organization and the desired competencies of the employees in these occupations. Next, look at supply and demand. Evaluate the current headcount in your organization and identify the current skills and competencies of your workforce. To meet demand, forecast the optimal headcount of competencies of employees which will be needed to meet future objectives. Finally, perform a gap analysis to determine the extent of the gap between the supply and demand analyses. From a gap analysis you can better establish future headcount and competency gaps. During workforce planning, there are several other factors you will want to review. While looking at your current workforce, consider demographics, diversity, and educational pipelines. Data for your workforce analysis can come from many places, such as employee databases, focus groups and workshops, employee position descriptions, questionnaires or surveys, employee evaluations or self-assessments, process maps, or IT systems in place to measure competencies. Transitioning Your Workforce Transitioning your existing workforce to a future state can be challenging for all involved. Proper planning must take place within the organization to ensure that the transition goes as smoothly as possible. To help ensure a smooth transition, those managing the process must develop the necessary plans that allow employees to quickly adapt to a new environment and gain a solid understanding of any new programs, processes, or IT systems that will be associated with the move. Employees should also be given the tools and resources necessary to allow them to demonstrate a high level of efficiency in their new roles, while also possessing the skills to meet the needs of customers. When running through your workforce assessment, ensure that your plan is capable of developing a high-performing workforce that will deliver better services to your customer base. A practical and effective workforce plan should offer a team with the capability to flexibly and efficiently ensure that objectives are met. The plan should also include a strategic and focused approach to attracting and retaining new and existing talent, while also identifying skills gaps that could potentially impact your business long-term. Your assessment should also cover other important aspects, such as plans to address issues like workforce size, design, and composition. First consider where your organization stands in terms of timing. Are you meeting your deadlines? How long

is it taking to complete certain tasks? Next, consider if your budget is accurate. Now take a closer look at your staff. Do you have an adequate number of employees? Do these employees have the skills you need to move forward? Other resources and tools can also play a major role in the success of your workforce plan. Do you have the technology and capacity to put your steps into action? What did the last year look like for your organization? If there is room for improvement, you need to take the time to assess your current workforce plan. Consider what events could have affected your strategic plan and what you can do in the future to better approach these events. At the Business Benefits Group, our Benefits Consultants have the skills your organization needs to help you plan for any situation. Schedule a consultation today to see how we can help you accomplish your workforce planning objectives.

Chapter 2 : An Optimization Approach to Workforce Planning for the Information Technology Field

iv An Optimization Approach to Workforce Planning for the IT Field Program of RAND's Arroyo Center. The Arroyo Center is a federally funded research and development center sponsored by the United.

Workforce Planning that Really is Strategic Workforce Planning that Really is Strategic August 31, Alec Levenson Alexis Fink Most workforce planning efforts are fairly short sighted and narrow, and could more accurately be called 12 month hiring plans. Strategic workforce planning promises to deliver greater value by using a longer time horizon and a talent supply chain approach. In order for HR to really raise its game, workforce planning has to be much more focused on addressing holistically the systemic talent issues that impede business performance. Workforce planning traditionally has meant annual forecasts for how many people are needed in a role, with the forecasts happening less than six months before the end of the fiscal year as part of the budget-setting process. For example, strategic workforce planning often includes identifying roles staffed with a large number of older people who are on the verge of retirement, and making plans in advance to ensure a stable talent pipeline of people to succeed them. Another common example is identifying key areas where the business plans to grow and calculating how to meet the talent demands and avoid shortages. That type of analytics is essential to avoid big gaps in the number of people needed to do the work. But that only focuses on who does the work, not how it gets done. Most of the people-related issues that arise from the work design cannot be easily addressed through adjusting headcount. There is a great opportunity for heads of talent analytics and their teams to play an important role positioning their organizations for success through this work. But it requires a different orientation than thinking about the problem as workforce planning, one which looks beyond the job to the system of work in which the job is embedded. This includes taking into consideration business objectives such as capacity utilization, cost minimization and more. For people working in talent analytics, the issue is not much different from the business coming to you and asking for help on how to optimize productivity and employee engagement. The challenge is learning how to do so by looking at the bigger picture of the system of work, and incorporating perspectives such as job design and organization design which go beyond the data typically available for talent analytics. Strategic workforce planning focuses on existing or new roles, matching up labor forecasts with analysis of the supply of people to fill those roles. For example, consider account managers at a bank. It would then plan on hiring more account managers where the forecasted gap is highest. Yet forecasting the number of account managers and where they need to grow the fastest does not address any root causes of performance that come from how the work is designed. The ultimate goal is not necessarily avoiding vacancies in the account manager role. Instead, the bigger picture is how the bank delivers its products and services in a cost effective way. Any future looking strategy must take into account things like redesigning the work to increase efficiency and increasing opportunity for automation as a disrupter of work processes. Getting customers to use the bank for a greater share of their banking needs increases retention and lowers acquisition costs. Hiring more and better account managers may help the bank improve its performance along those dimensions. Account managers definitely contribute to customer service, higher-margin sales, and cross-selling. Yet they are only one contributor to improved business performance. Improving those business metrics often requires other changes in the work system that complement what account managers do. Take customer service, for example. Account managers are important contributors to the customer experience, but they alone do not define it. The phone system the customer first encounters when calling in, the employees who interact with the customer both in person and over the phone, and other employees in the branch aside from the account managers also contribute to customer service. You have to consider the broader ways the organizational system creates the customer experience. Apply job analysis for better workforce planning. Taking a longer horizon look and considering the talent supply chain are useful innovations over traditional workforce planning, and those significant advances in the field have increased its relevance and contribution in recent years. Yet they are still too

narrowly focused on the job as it currently exists. A much better approach diagnoses the job design to find the bottlenecks to performance, and uses that analysis to design more holistic solutions. Consider the example of health care. Doctors are the most expensive, highest-skilled labor in healthcare delivery and the main bottlenecks to improved, cost-effective performance. Having doctors spend more time on patient care is key to improving health outcomes in many settings, yet typically it is too expensive to just add more doctors. For the longest time, nurses were the main workforce planning solution used to solve the problem of increasing the number of patients treated per hour each doctor works. However, in more recent decades nursing shortages have pushed the health care industry to innovate further, increasing the use of roles such as physician assistant to free up both doctors and nurses to treat more patients per hour. The insight of creating the role of physician assistant never came from a traditional workforce planning approach. The key is expanding the analysis from focusing on vacancies and hours worked in one job role to the set of roles that make up a complete work process. So rather than focus solely on the physicians and how many hours they work, the diagnosis hones in on the number of patients served per hour the physician works. The key question is how to optimize the number of patients treated per hour by the entire system of roles, not just the single role of physician. If the total labor cost per patient served can be lowered, then the total number of patients treated per hour can be expanded more cost effectively than by simply adding additional physician hours. The larger point here is that the focus needs to start with the business objectives. In a healthcare system, for example, the strategic objectives are treating patients effectively and efficiently to minimize costs and optimize health outcomes. Workforce planning focuses only on jobs, not the other parts of the system that need to be optimized. In a hospital, capacity utilization keeping the beds full is a critical objective so that the fixed costs of running the building can be spread over as many patients per day as possible. In a medical practice, the same principle applies: The key for talent analytics leaders who want to improve the strategic relevance of workforce planning is to take the perspective of a forward thinking business partner. Take a holistic view of the team, not just one job. The main message is that workforce planning has to go beyond the traditional focus on jobs and instead focus on teams. And rather than think about the work one role at a time, talent analytics leaders need to consider specific tasks and bottlenecks to performance that are rooted in parts of the job. Going back to our health care example, even today with the team approach of doctor, nurse and physician assistant, physician time is still the bottleneck to improved performance in many cases. If we could just free up doctors to spend more time with patients, efficiencies and patient outcomes could be improved further. The question is what additional changes or innovations can free up doctors further. The most recent answer is medical scribes. Using scribes frees up doctors from the very time consuming task of writing up the notes from the patient visit. The solution lay in adding lower-priced skilled labor that frees up the doctor to spend more time on what only they can uniquely do: The job of physician assistant, like nurse, is a traditional extender role which requires medical training and decision making. The scribe role, in contrast, broadens the focus to include non-clinical roles. Medical scribes need to be skilled enough to write down accurately what they hear, but they do not have to be trained and certified as medical providers to add value. Medical scribe roles are a lot like court reporter roles: The team-based diagnostic approach takes into account how the work is performed, and considers reconfiguring tasks across jobs to make more robust talent systems. These more robust systems can increase flexibility and efficiency by identifying the optimal way for the organization as a whole to function. Take for example the different tasks that have to be performed in supply chain operations. Optimizing the supply chain includes determining which tasks and roles can be outsourced when there are suppliers that have expertise that complements or even exceeds what the organization can do on its own. Yet the decision on outsourcing is not a simple one of the cost of services and availability of people to provide them. Evolution in organizational size, complexity, product offerings, competitive threats, and technology combine to create a dynamic reality for organizations. The perfect solution two years ago may be suboptimal today. Something impractical two years ago may offer significant competitive advantage today. For example, in the near future, the role of scribe may further evolve to be completed by a virtual digital assistant, as voice recognition

capability improves. Workforce needs are not static. To succeed, organizations must continually adapt and adjust their workforce planning.

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Effectively managing these three sources of manpower is especially important for the Army in the information technology (IT) and information assurance (IA) fields. This report presents a linear programming approach to modeling the IT/IA workforce that will help identify the potential costs and benefits of policy changes that affect how these.

All business rules are modelled accurately to create usable, optimal solutions that are continuously re-optimized in response to last-minute orders, urgent jobs or operational issues. Our service management software is designed to address the ever-increasing demands of a virtual connected workforce, driving efficiency and cost reduction through intelligent application of technology. Capable of automatically scheduling and re-scheduling thousands of jobs in a matter of seconds, our service optimization software creates huge operational savings by making sure that even very large workforces are continuously optimized. Not only does it allow real-time transfer of information but it actually responds to the incoming information, replanning job assignments or delivery schedules so that unexpected delays or last-minute orders are accommodated optimally with minimum impact on service levels or operational costs. MOBi takes into account all relevant operational factors such as: Schedules can be created in advance for operational or strategic planning, and can be updated dynamically in response to real-time events. Service engineers can send in reports and be automatically directed to their next job. Delivery drivers can receive instructions and send status reports while on the road. Job scheduling, workflow management and mobile data capture functionality are integrated with a central real-time planning system to provide a complete mobile workforce optimization solution. Sales Territory Management Integration with our strategic logistics planning solution SLIM enables optimization of sales territories to maximise customer service while minimising transport costs and distributing work evenly between field sales personnel. Territory mapping and mobile workforce optimization tools include interactive maps and resource usage charts which provide visibility of the entire field sales force and planned workloads. Users can record their working hours, log the completion of jobs, notify line managers of exceptions or problems and request updates to schedules via their PDA. The mobile service scheduling system allows users to view their planned activity, request or make modifications self scheduling and receive updates about the status of outstanding work. Requests for time off, overtime, training, etc. A configurable user interface ensures that the employee self service tools are easy to use, requiring minimal training and facilitating straightforward roll-out to large, multi-skilled workforces. MOBi couples wireless communication and data synchronisation techniques, using them in alternation to continually maintain information on central databases while providing live updates for the mobile user. Real-time call planning and dynamic routing of sales representatives ensures that field sales staff are kept up to date with customer requirements while maintaining high productivity levels. Mobile Data Capture As well as planning and scheduling the mobile workforce, MOBi provides powerful data capture tools for mobile workers, enabling real-time electronic capture of information such as survey results, job sheets, cost data and notes. By making use of the ever-increasing processing power and memory available to PDAs and palmtops, MOBi optimizes the connection between the mobile user and central workforce management systems. POD data is automatically transmitted to central databases and planning systems to enable real-time track-and-trace of consignments. Sign-on-screen technology eliminates the need for paper documents and streamlines the consignment tracking process.

Chapter 4 : Workforce Planning that Really is Strategic - Center for Effective Organizations

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