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Research Paper

Challenges in It Field

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Abstract
Nowadays, people focus on such details, connected to computerization: design, size, font, and color turn out to be so important.People start caringless about personal preferences and interests, spend less time with own families in order to create proper conditions for work. Computers help the users in many ways, but it is necessary to remember that wrong treatment with computers may have negative effects on the users.These problems may be connected to financial, physical, and emotional side. Possible bankruptcy, visual impairment, emotional surges, etc. Some people do not still have enough experience to control their work with computers, and this is why they may suffer because of own mistakes.

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I. INTRODUCTION

One of the first computers appeared in far 1940s in order to achieve positive results in the military sphere. At the beginning of the 1970s, the first personal computers became available for people. And, of course, the year of 1985, when the first Microsoft Windows was introduced, turned out to be crucially important for society andcomputerization all over the world.[1]Nowadays, people may spend so much time in the Internet, so that "the relationship of Internet and society is characterized by antagonisms that are an expression of the modern antagonism between cooperation and competition". If people do not have common affairs, it does not matter that people have nothing to do with computers.Many people use computers to complete certain tasks, conduct researches, draw tables, and present information in a clear way. So, it is quite possible to find out numerous advantagesas well as disadvantages of computerization of society, however, people will never argue that the use of computers may worsen their lives. [2]

CHALLENGES IN IT FIELD

In today there are lot of challenges faced by IT professional. They are Workload, Cybersecurity, Skills gaps, Digital Transformation, Cloud computing, Hiring,Budget,Leadership support,Analytics and data management, AutomationProject management and Career growth.

WORKLOAD

IT staff and decision-makers are overwhelmed with work demands. It's sort of a chicken and egg scenario—decision-makers are using increasing workloads as an excuse not to authorize training, and staff are struggling to complete assignments because they lack the proper skills. Either way, time that was previously designated toward skills development is now being used to catch up on an increasing backlog of work.Workload concerns are the highest they've been in the history of our IT Skills and Salary Report. It's the number one training inhibitor, as IT professionals believe mounting workloads limit the amount of time they can spend out of office or in a training course.Better manager oversight and strategy is required to address this issue. Automation may also be a solution as a means to reduce time-consuming tasks that are not high priority.[3]

CYBERSECURITY

The Cybersecurity challenge is two-fold. There are Cyberattacks are growing in size and sophistication and Millions of cybersecurity jobs remain unfilled. Organizations cannot take IT security lightly. An analysis of worldwide identity and access management by the International Data Corporation (IDC) revealed that 55% of consumers would switch platforms or providers due to the threat of a data breach, and 78% would switch if a breach impacted them directly. The problem is there aren't enough IT professionals with Cybersecurity expertise. Forty percent of IT decision-makers say they have Cybersecurity skills gaps on their teams. It's also

identified as the most challenging hiring area in IT.There isn't an immediate solution to this problem, but a long-term fix is to build your cyber workforce from the inside. Invest in Cybersecurity training and upskill your current staff. Hiring and outsourcing isn't always a viable solution. Current IT professionals who know the industry are more apt to transition into successful Cybersecurity professionals.[4]

SKILLS GAPS

Over 80% of North American IT departments have skills gaps. Globally, IT skills gaps have increased by 155% in three years. They can no longer be ignored, especially as a lack of necessary skills can be credited for increased employee stress, development and deployment delays, and increased operating costs.According to IT decision-makers, skills gaps will cost employers up to 416 hours and over $22,000 per employee, per year. Less than 60% of decision-makers say their organizations offer formal training for technical employees, down one percent from the previous year. Strategic and continual training is the antidote. That's the good news. The uphill battle is conveying the value to management and securing budget to ensure employees receive continual training. IT professionals need better support. If organizations do not invest in their employees' skills now, they will pay for it down the road.[5]

DIGITAL TRANSFORMATION

Digital transformation is latest disrupter. It has led to technology no longer providing a sustained competitive advantage. It now plays a supporting role to people with the right skills. Expertise is needed now more than ever to manage and implement all of the new technologies.But it's not that simple. As discussed above, IT departments are suffering from gaps in critical skills areas such as Cybersecurity, cloud computing and DevOps. Even IT professionals who are offered professional development opportunities are struggling to keep up. The rate of technological change is outpacing training.IT professionals and departments are falling behind—they are failingtomeetbusiness objectives and seize market opportunities. While continual training is part of the equation, prioritizing skill needs is even more of a priority. That's why we created the Skills Development Index™ to help IT professionals rank their most critical skill needs and determine which type of training to pursue. Informal training has its merits, especially when on-the-fly knowledge must be acquired, but when a high-value project is on the line, more formal learning is the better option.[6]

CLOUD COMPUTING

Cloud is the top investment area worldwide for IT departments. Organizations require an infusion of cloud skills to match their monetary investment in cloud platforms. Much like Cyber Security, cloud professionals are in high demand and short supply. According to IT decision-makers, cloud computing is the second most challenging hiring area in the world.The opportunities of cloud computing are impossible to ignore. Cloud is the ultimate enabler, opening new channels of revenue by leveraging technologies like artificial intelligence (AI) and the Internet of Things (IoT). But professionals are needed to capitalize on this technology, and currently, there aren't enough of them.[7]Despite the worker shortage, organizations are all-in on cloud solutions. In fact, more than 50% of organizations use more than one cloud provider.[2] It's not unique for an organization to require cloud skills in AWS, Microsoft Azure and Google Cloud. And generic cloud computing expertise isn't enough, especially if you're an engineer or architect. It's imperative that cloud professionals have current skill sets and train on the platforms they engage with regularly.[8]

HIRING

Talent recruitment and retention is a major challenge for IT leaders—50% are currently struggling in the area. Only seven percent of IT decision-makers say that hiring has been easy.Managers hoping to hire their way out of a skills gap problem have been dealt a dose of reality, as key positions like cloud computing and Cybersecurity are the most difficult to fill.One potential solution to this quandary is degree deflation, which is a conscientious effort to focus on skills rather than a college degree during the hiring process. A bachelor's degree is not necessarily an indicator of abilities, especially in tech. Recent training and certifications better illustrate what a professional is capable of right now.Requiring a four-year degree closes off a potential pipeline to qualified candidates. We suggest removing a degree as a prerequisite and placing a greater emphasis on relevant and actionable skills.[9]

BUDGET

A lack of budget and resources is another major concern for both IT staff and decision-makers. The open-field sections of our IT Skills and Salary Survey are littered with criticisms about budget constraints. IT professionals want to train but their requests aren't always approved by management.Budget is often the major roadblock impeding professional development and hiring. IT departments need to ensure they are communicating the right messages to organizational leadership to help them understand the value of ongoing training. Here's a place to start: revenue growth, low employee turnover and new product development are signs

of a skilled workforce.There are a number of ways to maximize a constrained budget. Prepayments and special offers are options to save on training. Lock in a discounted rate for a full year, or save a certain percentage on individual courses. Also, make sure you are aware of any training credits your company may have. They are typically issued by tech providers as a way to help drive value for a particular investment. Global Knowledge accepts training credits and vouchers as payment for courses. Know your balance and know when they expire.[10]

LEADERSHIP SUPPORT IN PRIORITIZING NEW SKILLS DEVELOPMENT

Some IT decision-makers do not authorize training even when it's built into their budget—41% had formal training available but decided to forgo it. Nearly 20% of IT professionals say management does not see a tangible benefit from training. That's a huge disconnect, especially since IT pros have a strong desire to learn and grow their careers. It's difficult to accomplish that without support from leadership.Often, IT management, fairly or unfairly, is blamed for poor employee morale and unclear job roles and responsibilities.[11]Communication is one of the biggest gripes—IT professionals believe leadership isn't always transparent, especially when it comes to decisions about resources and budgets.And IT professionals will not wait out a poor work situation. Ninety-one percent of unsatisfied employees are likely to pursue alternative employment. Many respondents in our IT Skills and Salary report changed employers in the last year and sited of poor culture or toxic management as primary reasons.We understand that leadership is often hamstrung by budgets, workloads and a lack of a strong learning culture, but senior- and executive-level employees within an organization would be well-served in the long term to find ways to secure continual training for their staff.[12]

ANALLYTICS AND DATA MANAGEMANT

Aside from cybersecurity and cloud computing, this is the biggest skill gap area for IT departments. Organizations are struggling to manage a wealth of new data. By 2025, IDC estimates the world will create and replicate 163 zettabytes (ZB) of data, 10 times the number that was created in 2016. New data is constantly accumulating, creating a host of storage and security risks that must be addressed. IT professionals are desperately needed to manage this data growth, but the problem has exacerbated because qualified individuals are difficult to come by.

It's not enough to accumulate this data. Organizations need analysts and critical thinkers to create a culture of information, enabling data-driven decisions to inform almost all business activities.The good news is most cloud platforms, such as AWS and GCP, allow you to capture, process, store and analyze data all in one place. The key now is to upskill and certify professionals on the technologies and services associated with these platforms.[13]

AUTOMATION

Since workload is the biggest challenge for IT professionals, finding ways to automate more mundane and time-consuming tasks such as email sends and social media posting is crucial.But companies are now looking to automate larger and more business-critical tasks, such as Cyberattack response, log monitoring and ERP integration. Automation's role in Cybersecurity is certainly growing. It's a tool that should be used to predict cyber threats and implement responses more quickly than can be accomplished manually.Hackers are using automation to execute their attacks, so it's time to bring the fight back to them. Automation allows attackers to move quickly, so organizations demand a faster detection and response time.Automation is also useful in cloud migration. For organizations moving to the cloud, many of the migration tasks, such as manual configuration, can be automated, which reduces migration time from days to minutes.[14]

PROJECT MANAGEMENT

Companies with certified project managers are more likely to have projects that are completed on time and within budget. It takes experience and strategic thinking to align projects with departmental and organizational goals. A strong project manager keeps projects on track so deadlines are met, resources are available and leadership is in the loop. Without someone to steer the ship, projects lack direction and risk increases. A business that fails to recognize these risks probably doesn't value project management highly.Rising skills gaps have made the jobs of project managers even more difficult, as critical expertise is lacking. It's the project manager's job to communicate skills needs with management and help guide realistic expectations. IDC believes that by 2020, 90% of all organizations will have adjusted project plans, delayed product/service releases, incurred costs or lost revenue because of a lack of IT skills, with losses worldwide totaling $390 billion annually. A successful project manager keeps their focus on the big picture even as disrupters, such as skills gaps, create risks for the business.PMI®'s Project Management Professional (PMP®) certification is an essential certification for project managers. PMP provides a verified level of assurance that a project manager has the experience and skills to effectively define, plan and deliver their projects. If you're a prospective project or program manager, the PMP certification should be in your immediate plans.[15]

CAREER GROWTH

Two-thirds of IT professionals who changed employers last year did so in pursuit of better growth and development opportunities. In fact, growth outweighs a higher salary in terms of the top factor for changing employers.As IT decision-makers struggle to fill open positions, it's important that they invest in the areas their employees deem valuable. If growth opportunities are not available, IT professionals have proven that they will not sit idly by. More than half of the professionals we surveyed said they expected to at least casually look for new jobs in 2020.Leadership must prioritize professional development. Invest in your employees' skill sets and help them grow their careers. If they're not receiving support form management, they will seek training on their own or look to grow their career elsewhere.Learn more about the factors that lead to employee turnover in our free Professional Development and Job Satisfaction report.[16]

II. CONCLUSION

People spend too much time close to their computers: some computer users prefer to be online in order to get fresh news and be aware of all changes in the world as soon as possible; some people just use computers to speed up their work, get the results a bit quicker, and save their work for a long period of time; and some people find computers as good means to entertain, communicate, and find out captivating material to discuss. This is why the functions of computers are great in numbers.Computer technologies develop rapidly day by day, offering more and more opportunities to people. Because of such a rapid development of computer technologies, certain changes with moral, legal, and ethical issues take place. In this paper, we have analyzed how people changes ethical norms and what actions are acceptable legally.Computerization of society plays a significant role for human development, and in order to develop properly, people should remember about moral and ethical aspects of every daylife.Computerization touches numerous spheres of our life: education, science, design, art, etc. Lots of scientists make use of computers to achieve good results and improve our future. Geologists are one of those, who use computers to investigate the Earth and its components, and analyze the findings from many perspectives.If people do not know how to use computers properly and follow moral and ethical rules, they have a chance to make a mistake and fail their work. This is why it is better to be ready to challenges, caused by rapid development of computer technologies, and use computers taking into consideration both negative and positive consequences.

End notes

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